DOCUMENT RESUME

ED 186 242 SE 030 587

AUTHOR Shermis, Mark D.
TITLE A Solution without a Problem: The Development of a Program in a Community Which Doesn't Need It.
PUB DATE 26 Sep 79
NOTE 22p.: Paper presented at the annual conference of the Evaluation Network (5th, Cincinnati, OH, September 24-26, 1979). Not available in hard copy due to marginal legibility of original document.

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Career Awareness; *Community Coordination; Community Development; Educational Research; *Engineering Education; *Minority Groups; *Program Development; Program Evaluation; Secondary Education; *Secondary School Science

ABSTRACT

This paper uses the Engineering Industrial Support Program (EISP) as an example for suggesting methods to program evaluators of separating corporate interests from community interests. It also presents alternatives for dealing with organizational resistance. The problems involved in creating and implementing EISP in three Michigan school districts are described. The paper consists of three parts: (1) program description and goals, (2) process problems and microanalysis, and (3) macroanalysis and discussion. (Author/SA)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED186242

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Mark D. Shermis

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

A Solution Without a Problem: The Development of a Program in a Community Which Doesn't Need It?

by

Mark D. Shermis

Consortium for Evaluation Research, Training, and Service
(C.E.R.T.S.), School of Education, University of Michigan

Paper Presented at the Evaluation Network Fifth Annual Conference, Cincinnati, Ohio, September 24-26, 1979

SE 030 587

A Solution Without a Problem:

The Development of a Program in a Community Which Doesn't Need It?

Abstract

Documenting program implementation is a difficult enough task for the evaluator without introducing "outside" factors into the design. In this evaluation, the "outside" factor seems to have been organizational resistance from the community the program was designed to serve. The program in question is the Engineering Industrial Support Program (EISP), created by the Minority Projects Office, College of Engineering, University of Michigan, funded by the Ford Motor Company, and implemented in the Ann Arbor, Ypsilanti, and Willow Run School Districts in March of 1978. The general purpose of the program is to assist minority students at the secondary level in preparing for a career in engineering.

This paper uses EISP as an example for suggesting methods to program evaluators of separating corporate interests from community interests, and presents alternatives for dealing with organizational resistance. Some of these alternatives include:

1) involving all organizational levels of the program in the planning phase
2) developing a formal assessment to tailor the program to organizational needs and desires
3) attending to the psychological needs of the program staff in addition to client needs
4) shifting the locus of responsibility to get organizational levels involved

The author suggests that more emphasis should be placed on the development of programs rather than on their implementation.

A Solution Without a Problem:

The Development of a Program in a Community Which Doesn't Need It?

Purpose

The purpose of this paper is to describe the problems involved in creating and implementing the Engineering Industrial Support Program (EISP) in the Ann Arbor, Ypsilanti, and Willow Run School Districts. In so doing, I will attempt to distinguish between substantive solutions of addressing a societal demand (ie., creation of a new program) and the process through which the solution is implemented. In discussing this dichotomy, I will present EISP as a case study, highlighting alternative methods in program evaluation. Topics specifically examined include:

1) Separating the interests of a major corporation sponsoring the program (Ford Motor Company) from the educational interests of middle (junior high; grades 7-9) school and high school students.
2) Convincing public school administrators of the need for a minority engineering program.
3) Satisfying the career and psychological needs of sponsoring teachers and counselors.
4) Integrating a program <u>for</u> the community <u>with</u> the community.

This paper consists of three parts: 1) program description and goals, 2) process problems and microanalysis, and 3) macroanalysis and discussion.

Program Description

The Engineering Industrial Support Program (EISP) was initiated in October, 1977, at the College of Engineering, University of Michigan. Initial support for the program was provided by Ford Motor Company. The general purpose of the program is to assist minority students at the secondary level in preparing for a career in all areas of engineering.

There are three sub-programs within EISP which operate annually. The sub-programs offered to EISP student participants are focused on career exposure activities in engineering and "on the job" placement through summer work. The programs encompass:

1) Enrichment Program

The establishment of on-going engineering clubs at each participating school has served as the main vehicle of the Enrichment Program. The program sponsored events include both "in-school" and "outside-of-school" activities, have been to help students develop an interest in and appreciation of engineering as a potential career field.

"In-School" club activities were designed around regularly scheduled club sessions, guest speakers, film/slide presentations and other enrichment and motivational natured activities.

"Out-of-School" activities incorporated field trips to surrounding industries, College of Engineering departmental presentations, and career oriented workshops developed by a local professional engineering group (National Technical

Association). The EISP Project Director usually organizes these activities while industry usually underwrites their cost.

2) Summer Academic Program

The main objective of the Summer Academic Program was to provide an extensive academic enrichment experience that would assist students, beginning at the secondary school level, prepare for entrance into a college of engineering. This eight-week program coincides with students' pursuit of engineering as a career option and takes place after the completion of the junior year in high school. Program communication skills, further exploration of the engineering field, and library research sessions are included in the summer schedule.

3) Summer Job Placement Program

Summer placement was developed to provide "on the job" experience for selected high school seniors beginning at the time of their graduation. Job placement has been guaranteed by the sponsoring industries, and is seen as a reinforcer for the participant. He or she will gain entry/experience with an engineering-related job while earning money. Students who have completed both the SAP and their senior year of high school are eligible for the Summer Job Placement Program.

Clients

Students in the enrichment phase are drawn from Huron High and Pioneer High in Ann Arbor, and from Ypsilanti High

in Ypsilanti. As of August 1978, Willow Run High School and Edmonson Junior High have formally been added to the program, although they have been informal participants since March 1978. The majority of participants in the program are minority students. Numbers vary from year to year, but generally each club has about 20 members. To identify students for the enrichment phase, counselors and teachers make referrals to the Project Director. In addition, a presentation (which includes a film, slides, and remarks about the program by the Project Director) is held at each school for interested students in the Spring of each year.

In order to be considered for the Summer Academic Program, interested students are requested to return an application to the Project Director. Official transcripts, PSAT scores, grade point average and letters of recommendation are also requested. Once the selection process is completed, a total of 15 students per year are included in the Summer Academic Program.

Goals of the Program

The ultimate societal goal of the project is to help increase the equality of participation for minorities in the field of engineering. This general goal would seem to be the implied goal of many programs which are developed with minority students in mind (Smith,1977). In practice, this very general goal is rarely stated.

The long-range student goal is to increase the participation of minorities in the field of

engineering. Although more concrete than the goal stated previously, this goal cannot be realized within a year. And only after several groups of students have graduated from high school and have had the opportunity to apply for admission to college engineering programs, could this goal ever be assessed.

There are nine short-range student and support goals. These nine goals provide a set of criteria by which the immediate and continuing success of the program can be assessed. These nine goals are:

1) To help students acquire an appreciation of engineering.
2) To expose students to engineering role models of different ethnic backgrounds.
3) To help students learn about requirements for entry into a college/school B.S. degree program in engineering.
4) To help students strengthen academic skills.
5) To encourage local industries to participate in minority engineering education programs.
6) To encourage active involvement of high school teachers and counselors in minority engineering education efforts.
7) To encourage parent involvement in minority engineering education.
8) To develop a communications network between different components of the ETSP program.

9) To provide students "on the job" or job related experience.

Figure 1 graphically illustrates the conceptual framework for the interrelationships between EISP short-range, long range, and ultimate societal goals.

Staff and Organization

The EISP program is administered through the Minority Projects Office of the College of Engineering by Ms. Anne Monterio. Leadership and direction is provided by the Project Director, Mr. Derrick E. Scott. Ms. Ruth L. Moore provides secretarial support.

In each of the three participating high schools, a sponsor has been identified to 1) organize and perpetuate the school's engineering club, and 2) serve as a liaison between the program and the students.

The Summer Academic Program is staffed by two teachers and two assistants for an eight week period.

Three divisions of Ford Motor Company are involved in the EISP program. These divisions are: Climate Control; Electrical and Electronics; and Plastics, Paint and Vinyl. There are also several individuals from each division involved in some manner.

Industry versus the Students

When the Engineering Minority Projects Office at the College of Engineering was first presented with the idea of an enrichment program for minority students, the impetus came from the Ford Motor Company. The relationship between

industry and other components of the EISP program is shown in Figure 2. Ford, along with almost all other major firms, is currently under scrutiny from the federal government to comply with the Equal Employment Opportunity Commission (EEOC) Guidelines for the hiring of women and minorities in all strata of corporate affairs. EEOC guidelines were first formulated in 1976, and solidified as enforceable Guidelines in August of 1978. The Guidelines were a response to demands for affirmative action by minority (i.e.,NAACP) and women's (i.e.,NOW) for equal opportunity in business and industry. Most major firms have "consented" by special arrangement with the Federal Circuit Courts to have a balanced "population" of workers no later than 1982. As part of their attempt to comply with the Guidelines, Ford approached the Engineering College with their proposal. It should also be noted that Ford sponsors a similiar program, DAP-CEP (Detroit Area Pre-College Engineering Program), in the metropolitan Detroit area.

Because of the immediacy of Ford's problem, the Minority Projects Office formulated the EISP program with high school students in the three district area in mind. Figure 3 shows the career education program formulated for public school children. Enrichment opportunities should occur between grades 7-10. Course selection for an "engineering track" must take place no later than grade 9 and is almost impossible to remediate after grade 10. The industry, however, desired <u>immediate</u> and <u>tangible</u> results of their

investment and pressed for enrichment experiences at the high school level with the Summer Academic Program occurring after the 11th grade.

The compromise by the Minority Projects Office and industry allowed for the establishment of a program, but two issues were left unaddressed:

1) The MPO and Ford failed to assess whether or not the communities actually needed a minority engineering program irrespective of Ford's intentions. In retrospect, we suspect that the non-involvement of community was a serious mistake. Our position is supported in theory by the evaluation models of Metfessel and Michael (1967) and Alkin (1969).

2) Assuming that the communities did need the program, what effect could it possibly have on the incorrectly targetted population? The MPO was aware of this problem and established the FISP Program with the understanding that middle (junior high) schools would subsequently be included.

The long term effects of the program will also remain in doubt because of these decisions.

Administration versus the Students

Soon after the Minority Projects Office formulated the guidelines for the FISP program, Mr. Scott was appointed to become the Project Director. MPO was now placed in a particularly embarrassing position:

1) They had a cause

2) They had a program and staff

3) They had funding

But there was no milieu in which to implement their ideas. Mr. Scott's first task was to make liason with the three targetted schools and try to convince the Superintendent of the school districts of the need for such a program. This approach differs somewhat with the approach taken by Goldenberg (1971) who focused first on the community and then on other groups that affected his organization. However, Ford Motor Company was pushing for a program set-up immediately, as it desired to see "graduates" of the program in industry as soon as possible. In retrospect, this hurried attitude perhaps may have had long-term disadvantages. As the author shall point out in the last section of this paper, selling the program to the community would probably have helped to get the schools involved much easier. As it was, Mr. Scott had to convince the Superintendent of the Ann Arbor School District (minority population=6%) of the "urgent" need for a minority engineering program. The task was slightly easier in Ypsilanti (minority population=25%). Willow Run High School and Edmonson Junior High, after learning about the program via a concerned parent, invited the EISP program to their school district (minority population=50%). At first the author hypothesized that the ease or difficulty of implementing the EISP program in each of the school districts was directly a function of the minority make-up in

the schools. The larger the minority population, the easier it was for each Superintendent to see the need for EISP. However, this may not be the case. The problem may have been a simple matter of community interests. Ford has a major plant in the Willow Run community, and therefore "interacts" in the daily lives of Willow Run residents. There is no such interaction with the Ann Arbor and Ypsilanti communities. People in Willow Run may have felt a part of Ford's program due to a psychological "investment" whereas the other two communities had no real stake in the venture. The Superintendent of Willow Run offered strong administrative support from the beginning. Unfortunately because funds for EISP had already been allocated, Willow Run could not officially be incorporated until August of 1978. However, because of the strong administrative support, Willow Run was and still is actively involved in all facets of EISP. Alternatively, the problem may have been due to the orientation of the schools in terms of where their vested interests lie for their graduates. Counseling, for example, is geared towards academic preparation for college (i.e., Ann Arbor for the University of Michigan, Ypsilanti for Eastern Michigan University). To suggest to the Superintendents of Ann Arbor and Ypsilanti there was not adequate minority preparation for engineering questions the sense of esprit de corps of the school district. However, there were economic and prestige advantages for becoming involved with the EISP

program:

1) no expenditure of funds from the district was required
2) some students would be serviced by the program with a minimum of supervision.
3) theoretically more students would be admitted into a higher learning instutution because of the program.

Implementation: Teachers versus the Students

The way in which the administration accepted EISP was mirrored in the way in which club sponsors and counselors accepted the program. For the sponsoring teacher, club supervison was an extracurricular activity with no monetary renumeration. Organizing, preparing for the enrichment activities, and making liason with the Project Director also involved additional time. However, an interesting phenomenon occurred early on in the project's inception. Mr. Scott, in preparation of the engineering club's implementation, had already scheduled a series of enrichment activities. This required the sponsor to act merely in a custodial fashion. With 20/20 hindsight, we have hypothesized that this perhaps was not the wisest route to take because it systematically prevented the club sponsor from becoming actively involved with the students. This past year, however, science project activities eminated from the club sponsor (i.e., construction of a mini-computer) and the summative evaluation indicated a much higher level of a sponsor satisfaction. In addition, because sponsors had been "assigned" by the building principals in March, there were a

myriad of scheduling difficulties due to previous commitments.

Counselors, too, were hesitant to become involved with the program. Goldenberg (1971) had encountered a situation in which counselors knew little about guidance outside of the tracking required by the liberal arts curriculum. In our situation, EISP Club students were more apt to rely on EISP program personnel for academic counseling because of their specific knowledge of engineering programs. This, however, may have served only to isolate even further the counselors from their high school students. When it came time to make recommendations for the Summer Academic Program, counselors, not fully understanding the intent of the program, usually placed students with "unrealized potential" at the head of their list. The SAP component, on the other hand, was looking for good students with demonstrated potential, not students who required extensive remedial work. The counselors were reacting to the program in stereotypical ways, which only subverted the real purpose of EISP. The MPO has tried to work extensively with the counselors and teachers to persuade them of the philosophical basis of EISP in order to attract good students. This problem has yet to be solved. One possible source of help for the Project Director has come from the community.

The Community and the Students

We began focusing on the community this year because we realized that EISP could not remain solvent without

community support. Interestingly workshops for parents revealed that they were interested more in the financial aid aspect of EISP for their children than they were in engineering per se. However, the parents believed that an engineer working for Ford Motor Company did not earn significantly more than a unionized factory worker. Parents were interested in the status of their children going to college and becoming an engineer. This may be part of the "professional mystique" which abounds in American society.

The EISP Project Director has begun to use this interest to get parents involved with the local clubs. The system works like this: college admission and financial support is virtually assured to the student participants in the Summer Academic Program. In addition, these students have access to a Summer Job Placement program with Ford. If one high school gets more than its fair share of SAP slots, then parents from the "deficient" school will begin to apply pressure to the administration to get the sponsors and counelors to get back in line. Evidence of this phenomena has already surfaced this year. Numerous inquiries were made from the Ann Arbor schools when it was discovered that Willow Run got a disproportionate number of acceptances to the SAP. Apparently parents in Ann Arbor were dissatisfied by the high school's "performance" and put pressure on the administration for some action.

The advisory board (see Figure 3) which is composed of members from industry, the university, the public schools,

and the community was designed as a means of increasing community involvement. To date this group has been serving as a rubber stamp to the innovations and ideas eminating from the MPO. The Project Director has been trying to get the advisory board committed to EISP but has been so far unsuccessful. The professional group (industry, university, public schools) views this monthly gathering as just another meeting. The community members have reacted more positively, making suggestions for enrichment activities, but little else. MPO and the Project Director will be focusing on this aspect of the program in the near future to design ways to raise the cohesiveness of the group.

Analysis

Sarason (1972) states "the more things change, the more thy remain the same." On the summative dimension the EISP program may turn out to be an "effective" change agent, attaining its intermediate, long-range, and societal goals. But a closer look at program implementation reveals that it may be the same old American process of dealing with human service problems:

1) America tends to be reactive to the demands of particular interest groups (Crowfoot & Chesler, 1974).
2) America relegates the accomplishment of such demands to the jurisdiction of professionals. As such these demands become fragmented and specialized. This results in the inevitable Band-Aid approach to societal problems (Slater, 1971).

3) Due to political expediency, time is often a more critical element than is ultimate efficiency. The benefit is political control of a situation at the cost of societal confusion, alienation, and anger.

There are three techniques (two of which are contrasted here) used in process-problem solving. One technique incorporates a rational, deliberate mode (professional-technical) mode of action. Another mode embodies change in terms of pressure from societal factions (political). The third mode involves changes of values (counter-cultural) (Crowfoot & Chesler, 1974). With the problem of metric conversion, for example, we have come up with a logical, deliberate 15 year conversion program (1970-1985) and have coordinated a variety of local, state, and federal agencies with little and or few problems. Witness industry's cooperation and conversion. The process is illustrated by a number of characteristics:

1) Agreement that metrics was a "good" thing (values)

2) Long range planning

3) Cooperation at local, state, and federal levels

However, in dealing with societal problems, political expediency often has the upper hand. PL 94-142 (mainstreaming) was a clear example of a law affected by political expediency. The handicapped organized and placed political pressure on the Ford Administration and got the measure enacted in spite of Ford's objections. The implementation of PL 94-142 might be described by the

following characteristics:

1) Non-agreement about how best to serve the handicapped
2) No planning (the bill was enacted without an implementation clause).
3) State level interpretation as to how to administer mainstreaming funds.

Of course handicapped people will now be receiving services they never had before. But what about the quality of those services? Perhaps by acquiescence to political expediency we have again violated societal efficiency. Surely the most avid supporters of mainstreaming will stipulate that the program could be more effectively managed.

In that same way the EISP program succumbed to "political expediency" in its implementation. There are a variety of ways to premeditatively implement a program. For example, the societal need for a program can be self-evident. If needs were not self-evident, then they might be discovered (or verified) through a needs assessment. Goldenberg (1971) did something similar to this by advocating a program within the community, and merging the program with the discovered community needs. But EISP was imposed on the schools and then needs were found to match the program. No one had ever established a lack of minority engineers in the Ann Arbor and Ypsilanti community. Ignoring this step will tend to isolate the school and community groups. In so doing, the author believes the Project Director had to spend a

disproportionate amount of time engaging in PF work. Once the need was established (through parent workshops) then the program became entrenched in the schools. A good test for program impact would be to hypothesize:

> What would happen to EISP if Ford Motor Company discontinued its funding? Would the program fold or would the community demand its continuance from other funds?

EISP presently receives its only source of funding from outside industry and it has no non-professional advocates from the community. Becasue of this situation, I suspect the program would foll (at least in Ann Arbor and Ypsilanti) if funding were suddenly terminated by Ford Motor Company. Perhaps next year or two years from now enough of a demand will be generated from the communities so that the program can continue regardless of industry's priorities for funding.

Regarding teacher and counselor reaction to EISP, the author believes their behavior to have been perfectly predictable despite the school district's academic orientation. Had these groups been actively involved (whether through ideology or self-interest), their acceptance of the program might have come much sooner. The Project Director utilized the involvement process during the second year with some success. The teacher/counselor acceptance of the program will be influenced by the community's desire for the program at the local level.

New Directions for EISP and Conclusion

To date, all evaluation and process problem-solving for

EISP has been viewed from a "cross-sectional" standpoint. However, we are perhaps more interested in long-term (the longitudinal) effects of the program. Will graduates of the EISP program go on to college and get an engineering degree? Will they get relevant employment during the summer? Will they get an engineering job at the end of their studies? Can we attribute their success to anything that EISP did?

All these questions (especially the last one) involve issues of longitudinal process problem solving. We have to date encountered most of our problems with short term problem solving in the area of planning and implementation. Perhaps an emphasis on better program planning will serve to stave off implementation problems.

Evaluation is supposed to give decision makers a means of making logical, rational, and political decisions. However, process measures often help when the question or answer is unclear. The ultimate success of EISP or other human service interventions will depend on the interpretation of the answer, not the answer itself.

References

Alkin, M.C., "Evaluation Theory Development," Evaluation Comment, (2) 1, 1969.

Crowfoot, J. & M. Chesler, "Contemporary Perspectives on Planned Social Change: A Comparison," The Journal of Applied Behavioral Science, 10(3), 1974.

Goldenberg, I. Ira. Build Me a Mountain: Youth, Poverty, and the Creation of New Settings. MIT Press, Cambridge, 1971.

Metfessel, N.S. and W.B. Michael, "A Paradigm Involving

Multiple Criterion Measures for the Evaluation of the Effectiveness of School Programs," Educational and Psychological Measurement, (27), 1967.

Sarason, S.B. The Creation of Settings and the Future Societies. Jossey-Bass: San Francisco, 1972.

Slater, Philip. The Pursuit of Loniiness: American Culture at the Breaking Point. Beacon Press: Boston, 1971.

Smith, J. Stanford, "Minorities in Engineering: A Five Year Progress Report", Engineering Education, November, 1977.